

**Amendments to the Claims:**

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Previously Presented) A resistance element comprising an electrical resistance body consisting of a patterned carbon nanotube structure having a mesh structure, in which plural carbon nanotubes are cross-linked to one another through cross-linked sites.

2. (Original) A resistance element according to claim 1, wherein each of the cross-linked sites, where the plural carbon nanotubes are cross-linked to one another, has at least one chemical structure selected from the group consisting of  $-\text{COO}(\text{CH}_2)_2\text{OCO}-$ ,  $-\text{COOCH}_2\text{CHOHCH}_2\text{OCO}-$ ,  $-\text{COOCH}_2\text{CH}(\text{OCO}-)\text{CH}_2\text{OH}$ ,  $-\text{COOCH}_2\text{CH}(\text{OCO}-)\text{CH}_2\text{OCO}$ , and  $-\text{COO}-\text{C}_6\text{H}_4-\text{COO}-$ .

3. (Original) A resistance element according to claim 1, wherein the carbon nanotube structure comprises the cross-linked sites formed by:

curing a liquid solution containing plural carbon nanotubes that have plural functional groups bonded thereto; and

chemically bonding together the plural functional groups that have the carbon nanotubes connected thereto.

4. (Previously Presented) A resistance element according to claim 2, wherein each of the cross-linked sites has a structure, in which plural functional groups are cross-linked together through a cross-linking agent in the liquid solution.

5. (Original) A resistance element according to claim 4, wherein the cross-linking agent is a not self-polymerizable cross-linking agent.

6. (Original) A resistance element according to claim 4, wherein:

each of the functional groups is at least one functional group selected from the group consisting of -OH, -COOH, -COOR (R is a substituted or unsubstituted hydrocarbon group), -COX (X is a halogen atom), -NH<sub>2</sub>, and -NCO; and

the cross-linking agent is capable of prompting a cross-linking reaction with the selected functional groups.

7. (Original) A resistance element according to claim 6, wherein:

the cross-linking agent is at least one cross-linking agent selected from the group consisting of glycerin, ethylene glycol, butenediol, hexynediol, hydroquinone, and naphthalenediol; and

the functional groups are capable of prompting a cross-linking reaction with the selected cross-linking agent.

8. (Original) A resistance element according to claim 4, wherein:

each of the functional groups is at least one functional group selected from the group consisting of -OH, -COOH, -COOR (R is a substituted or unsubstituted hydrocarbon group), -COX (X is a halogen atom), -NH<sub>2</sub>, and -NCO;

the cross-linking agent is at least one cross-linking agent selected from the group consisting of polyol, polyamine, polycarboxylic acid, polycarboxylate, polycarboxylic acid halide, polycarbodiimide, and polyisocyanate; and

the functional groups and the cross-linking agent are respectively selected for a combination capable of prompting a cross-linking reaction with one another.

9. (Previously Presented) A resistance element according to claim 4, wherein each of the functional groups is -COOR (R is a substituted or unsubstituted hydrocarbon group) and/or -COOH.

10. (Original) A resistance element according to claim 9, wherein the cross-linking agent is polyol.
11. (Original) A resistance element according to claim 10, wherein the cross-linking agent contains at least one cross-linking agent selected from the group consisting of glycerin, ethylene glycol, butenediol, hexynediol, hydroquinone, and naphthalenediol.
12. (Original) A resistance element according to claim 9, wherein the cross-linking agent is polyamine.
13. (Original) A resistance element according to claim 9, wherein the cross-linking agent is congo red.
14. (Original) A resistance element according to claim 9, wherein the cross-linking agent is an ammonium complex.
15. (Original) A resistance element according to claim 9, wherein the cross-linking agent is Cisplatin.
16. (Previously Presented) A resistance element according to claim 1, wherein the cross-linked sites are formed through chemical bonds of plural functional groups.
17. (Original) A resistance element according to claim 16, wherein a reaction forming the chemical bonds is at least one reaction selected from the group consisting of a dehydration condensation, a substitution reaction, an addition reaction, and an oxidative reaction.
18. (Original) A resistance element according to claim 16, wherein each of the cross-linked sites, where the plural carbon nanotubes are cross-linked to one another, has at least one chemical structure selected from the group consisting of -COOCO-, -O-, -NHCO-, -COO-, -NCH-, -NH-, -S-, -O-, -NHCOO-, and -S-S-.

19. (Previously Presented) A resistance element according to claim 16, wherein the plural functional groups react through a dehydration condensation to cross-link the carbon nanotubes.

20. (Original) A resistance element according to claim 19, wherein each of the functional groups is -COOH.

21. (Original) A resistance element according to claim 20, wherein each of the cross-linked sites, where the plural carbon nanotubes cross-link to one another, is -COOCO-.

22. (Original) A resistance element according to claim 1, wherein the plural carbon nanotubes are multi-wall carbon nanotubes.

23-62. (Canceled)